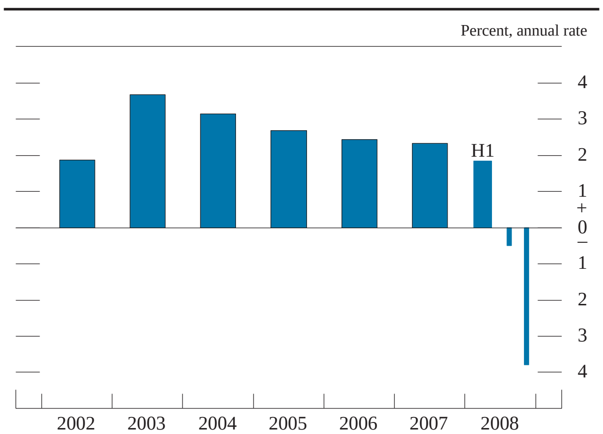
# Part 2
# Recent Financial and Economic Developments

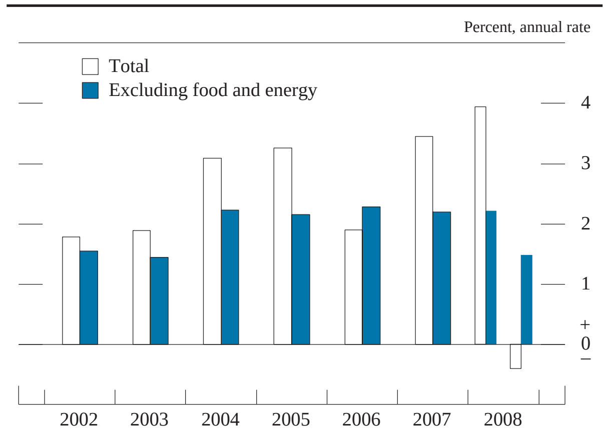
The downturn in economic activity that has been unfolding since late 2007 steepened appreciably in the second half of 2008 as the strains in financial markets intensified. After the financial difficulties experienced by Fannie Mae and Freddie Mac during the summer and the bankruptcy of Lehman Brothers Holdings in mid-September, short-term funding markets were severely disrupted, risk spreads shot up, equity prices plunged, and markets for private asset-backed securities remained largely shut down. As a result, pressures on the already strained balance sheets of financial institutions increased, thereby threatening the viability of some institutions and impinging on the flow of credit to households and businesses. In part reflecting the cascading effects of these developments throughout the wider economy, conditions in the labor market deteriorated markedly. Moreover, industrial production contracted sharply as manufacturers responded aggressively to declines in both domestic and foreign demand. According to the advance estimate from the Bureau of Economic Analysis, real gross domestic product (GDP) fell at an annual rate of 3¾ percent in the fourth quarter, and it seems headed for another sizable decrease in the first quarter of 2009 (figure 1). Meanwhile, inflation pressures have diminished as prices of energy and other commodities have plummeted, the margin of resource slack has widened, and the foreign exchange value of the dollar has strengthened (figure 2).

1. Change in real gross domestic product, 2002–08




Note: Here and in subsequent figures, except as noted, change for a given period is measured to its final quarter from the final quarter of the preceding period.
Source: Department of Commerce, Bureau of Economic Analysis.

2. Change in the chain-type price index for personal consumption expenditures, 2002–08




Source: Department of Commerce, Bureau of Economic Analysis.

In response to the extraordinary financial strains, the Federal Reserve implemented a number of unprecedented policy initiatives to support financial stability and promote economic growth. These initiatives included lowering the target for the federal funds rate to a range of 0 to ¼ percent, beginning direct purchases of agency debt and agency mortgage-backed securities, broadening liquidity programs to financial intermediaries and other central banks, and initiating programs in support of systemically important market segments. Other U.S. government entities also undertook extraordinary initiatives to support the financial sector by injecting capital into the banking system and providing guarantees on selected liabilities of depository institutions. Many foreign central banks and governments took similar steps. Although these actions have helped restore a measure of stability to some markets, financial conditions remain quite stressed, and aggregate credit conditions continue to be impaired as a result.

## *Financial Stability Developments*

### Evolution of the Financial Turmoil

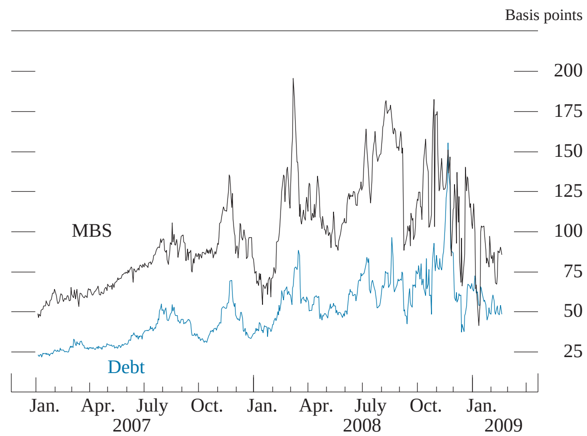
The current period of pronounced turmoil in financial markets began in the summer of 2007 after a rapid deterioration in the performance of subprime mortgages caused largely by a downturn in house prices in some parts of the country. Investors pulled back from risk-taking, and liquidity diminished sharply in the markets for interbank funding and structured credit products more generally. House prices continued to fall rapidly in the first part of 2008, mortgage delinquencies and defaults continued to climb, and concerns about credit risk mounted. The increased financial strains led to a liquidity crisis in March at The Bear Stearns Companies, Inc., a major investment bank, and to its acquisition by JPMorgan Chase & Co. Subsequent aggressive monetary policy easing and measures taken by the Federal Reserve to bolster the liquidity of financial institutions contributed to some recovery in financial markets during the spring.

Nevertheless, strains in financial conditions intensified going into the second half of the year. In particular, amid worries that the capital of Fannie Mae and Freddie Mac would be insufficient to absorb mounting losses on their mortgage portfolios, the stock prices of the two government-sponsored enterprises (GSEs) began to decline significantly in June, and their credit default swap (CDS) spreads—which reflect investors' assessments of the likelihood of the GSEs defaulting on their debt obligations—rose sharply. Market anxiety eased somewhat in the second half of July after the Treasury proposed statutory changes, subsequently approved by the Congress, under which it could lend and provide capital to the GSEs. Nevertheless, pressures on these enterprises continued over the course of the summer; as a result, option-adjusted spreads on agency-guaranteed mortgage-backed securities (MBS) widened and interest rates on residential mortgages rose further (figure 3).

Meanwhile, investor unease about the outlook for the broader banking sector reemerged. In July, the failure of IndyMac Federal Bank, a large thrift institution, raised further concerns about the profitability and asset quality of many financial institutions. Over the summer, CDS spreads for major investment and commercial banks rose, several large institutions announced sharp declines in earnings, and anecdotal reports suggested that the ability of most financial firms to raise new capital was limited (figure 4). With banks reluctant to lend to one another, conditions in short-term funding markets continued to be strained during the summer. The relative cost of borrowing in the interbank market—as exemplified by the London interbank offered rate (Libor), a reference rate for a wide variety of contracts, including floating-rate mortgages—increased sharply (figure 5).[2] In addition, required margins of collateral (known as haircuts) and bid-asked spreads widened in the markets for repurchase agreements (repos) backed by many types of securities, including agency securities that previously were considered very safe and liquid.

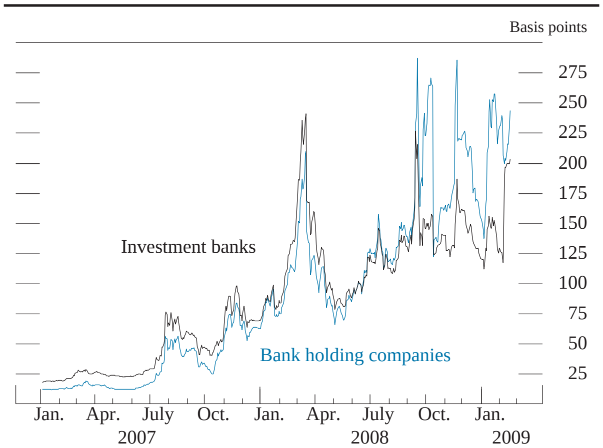
On September 7, the Treasury and the Federal Housing Finance Agency announced that Fannie Mae and Freddie Mac had been placed into conservatorship. To maintain the GSEs' ability to purchase home mortgages, the Treasury announced plans to establish a backstop lending facility for the GSEs, to purchase up to $100 bil-

3. Spreads on 10-year Fannie Mae debt and option-adjusted spreads on Fannie Mae mortgage-backed securities, 2007–09




NOTE: The data are daily and extend through February 18, 2009. The spreads are over Treasury securities of comparable maturities. MBS are mortgage-backed securities.
SOURCE: For MBS, Bloomberg; for debt, Merrill Lynch and the Federal Reserve Bank of New York.

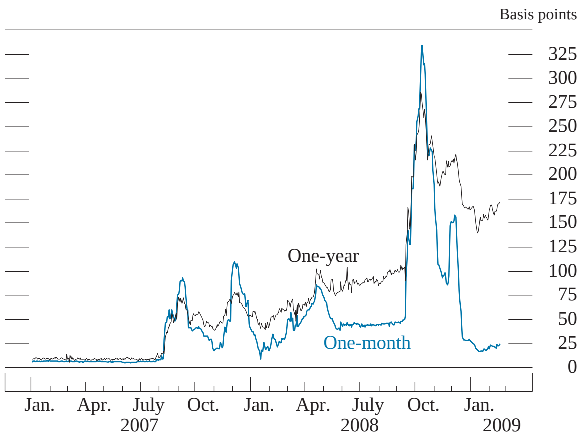
4. Spreads on credit default swaps for selected U.S. financial companies, 2007–09




NOTE: The data are daily and extend through February 18, 2009. Median spreads for six bank holding companies and nine investment banks.
SOURCE: Markit.

2. Typically, the relative cost is measured by comparing the Libor rate with the rate on comparable-maturity overnight index swaps.

5. Libor minus overnight index swap rate, 2007–09




NOTE: The data are daily and extend through February 19, 2009. An overnight index swap (OIS) is an interest rate swap with the floating rate tied to an index of daily overnight rates, such as the effective federal funds rate. At maturity, two parties exchange, on the basis of the agreed notional amount, the difference between interest accrued at the fixed rate and interest accrued by averaging the floating, or index, rate. Libor is the London interbank offered rate.

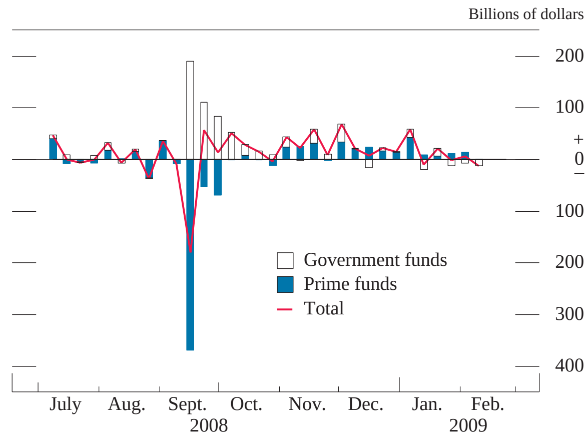
SOURCE: For Libor, British Bankers' Association; for the OIS rate, Prebon.

lion of preferred stock in each of the two firms, and to initiate a program to purchase agency MBS. After the announcement, interest rate spreads on GSE debt narrowed as investors became confident that the Treasury would support the obligations of the GSEs. Option-adjusted interest rate spreads on MBS issued by the GSEs fell, and rates and spreads on new conforming fixed-rate mortgages declined. Nevertheless, other financial institutions continued to face difficulties in obtaining liquidity and capital as investors remained anxious about their solvency and, more broadly, about the implications of worsening financial conditions for the availability of credit to households and businesses and so for the economic outlook.

Amid this broad downturn in investor confidence, and after large mortgage-related losses in the third quarter, Lehman Brothers came under pressure as counterparties refused to provide short-term funding to the investment bank, even on a secured basis. Eventually, with no other firm willing to acquire it and with its borrowing capacity limited by a lack of collateral, Lehman Brothers filed for bankruptcy on September 15.[3] Over the previous weekend, Bank of America announced its intention to acquire Merrill Lynch, which had also come

3. The bankruptcy of Lehman Brothers and the conservatorship of Fannie Mae and Freddie Mac constituted credit events of unprecedented scale for the CDS market. Nevertheless, settlement of the outstanding CDS contracts on these entities proceeded smoothly over the subsequent weeks, apparently due in part to the increased margins demanded by holders of CDS protection in the period leading up to early September.

6. Net flows into taxable U.S. money market mutual funds, 2008–09



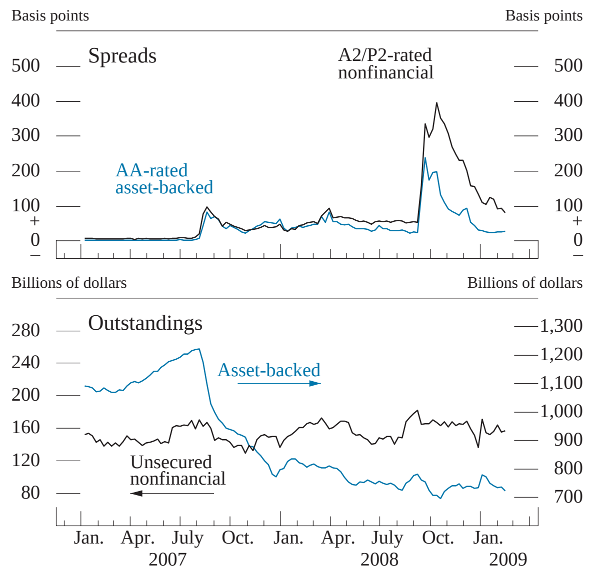

NOTE: Data are weekly and extend through February 13, 2009.

SOURCE: iMoneyNet.

under severe funding pressures. In large part because of losses on Lehman Brothers' debt, the net asset value of a major money market mutual fund fell below $1 per share—also known as "breaking the buck," an event that had not occurred in many years—thereby prompting rapid and widespread investor withdrawals from prime funds (that is, money market mutual funds that hold primarily private assets) (figure 6). Prime funds responded to the surge in redemptions by reducing their purchases of short-term assets, including commercial paper—which many businesses use to obtain working capital—and by shortening the maturity of those instruments that they did purchase, leading to a deterioration of the commercial paper market (figure 7). Meanwhile, investors increasingly demanded safe assets, and funds that hold only Treasury securities experienced a sharp increase in inflows, which caused yields on Treasury bills to plummet. Intense demands among investors to hold Treasury securities, coupled with increased concerns about counterparty credit risk, reportedly led to a substantial scaling back of activity among traditional securities lenders in the Treasury market. The decreased activity contributed, in turn, to disruptions in the Treasury repo and cash markets that were evidenced by a very high volume of fails-to-deliver. Redemptions from prime funds slowed after the Treasury and the Federal Reserve took actions in September and October to support these funds (see the appendix).

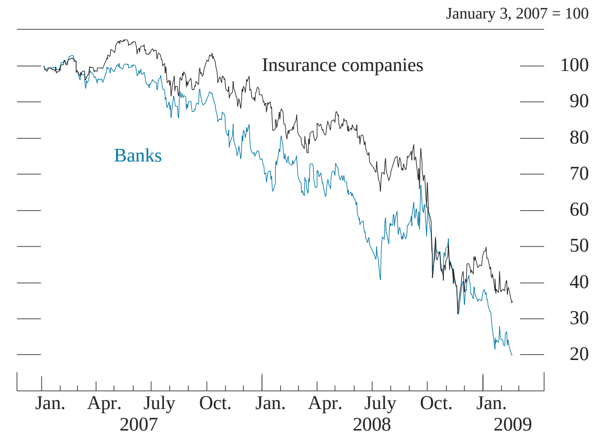
Around the same time that the difficulties at Lehman Brothers emerged, the financial condition of American International Group, Inc., or AIG—a large, complex insurance conglomerate—deteriorated rapidly, and the company found short-term funding, upon which it was heavily reliant, increasingly difficult to obtain. In view

7. Commercial paper, 2007–09




NOTE: The data are weekly and extend through February 18, 2009. Commercial paper yield spreads are for an overnight maturity and are expressed relative to the AA nonfinancial rate. Outstandings are seasonally adjusted.
SOURCE: Depository Trust and Clearing Corporation.

8. Prices of exchange-traded funds on selected U.S. financial sectors, 2007–09




NOTE: The data are daily and extend through February 18, 2009; they cover 24 banks and 24 insurance companies.
SOURCE: Keefe, Bruyette & Woods (KBW) and Bloomberg.

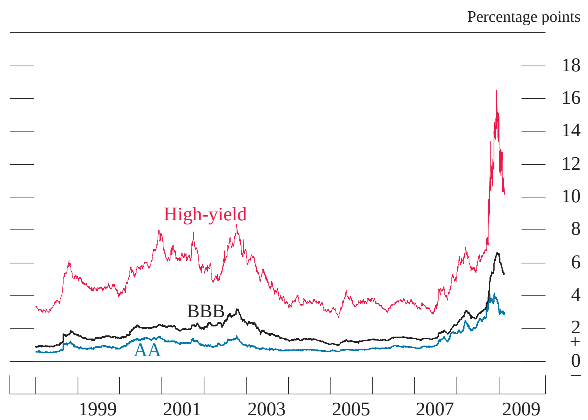
of the likely spillover effects to other financial institutions of a disorderly failure of AIG and the potential for significant pass-through effects to the broader economy, the Federal Reserve Board on September 16, with the full support of the Treasury, authorized the Federal Reserve Bank of New York to lend up to $85 billion to the firm to assist it in meeting its obligations and to facilitate the orderly sale of some of its businesses. (AIG, the Treasury, and the Federal Reserve later modified the terms of this arrangement, as described in the appendix.) Meanwhile, CDS spreads for other insurance companies rose, and their equity prices fell, amid concerns regarding their profitability and declines in the values of their investment portfolios (figure 8).

Investor anxiety about investment banks, which had escalated rapidly in the wake of Lehman Brothers' collapse, abated somewhat after Morgan Stanley and Goldman Sachs were granted bank holding company charters by the Federal Reserve. However, on September 25 the resolution of another failing financial institution, Washington Mutual, imposed significant losses on senior and subordinated debt holders as well as on shareholders. As a consequence, investors marked down their expectations regarding likely government support for the unsecured nondeposit liabilities of financial institutions, which further inhibited the ability of some banking organizations to obtain funding. Among these institutions was Wachovia Corp., the parent company of the fourth-largest U.S. bank by asset size at the time, which was ultimately acquired by Wells Fargo in early October.

Against this backdrop, investors pulled back from risk-taking even further, funding markets for terms beyond overnight largely ceased to function, and a wide variety of financial firms experienced increasing difficulty in obtaining funds and raising capital. Libor rates rose at all maturities while comparable-maturity overnight index swap (OIS) rates fell, leaving spreads at record levels. Strains were also evident in the federal funds market, in which overnight funds traded over an unusually wide range and activity in term funds dropped sharply. Conditions in repo markets worsened further, as haircuts and bid-asked spreads on non-Treasury collateral increased, and the overnight rate on general Treasury collateral traded near zero. Despite substantial new issuance, yields on short-dated Treasury bills also traded near zero. Fails-to-deliver in the Treasury market and overnight lending of securities from the portfolio of the System Open Market Account soared to record highs. Spreads on asset-backed commercial paper (ABCP) and on lower-rated unsecured commercial paper issued by nonfinancial firms widened significantly.

Conditions in other financial markets also deteriorated sharply in September and October. CDS spreads on corporate debt surged, and the rates on investment-grade and high-yield bonds rose dramatically relative to comparable-maturity Treasury yields (figure 9). Secondary-market bid prices for leveraged loans dropped to record-low levels as institutional investors pulled back from the market, and the implied spread on an index of loan credit default swaps (the LCDX)

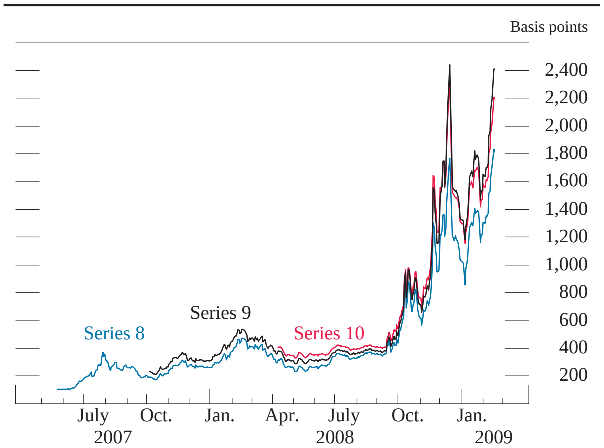
9. Spreads of corporate bond yields over comparable off-the-run Treasury yields, by securities rating, 1998–2009




NOTE: The data are daily and extend through February 18, 2009. The spreads shown are the yields on 10-year bonds less the 10-year Treasury yield.
SOURCE: Derived from smoothed corporate yield curves using Merrill Lynch bond data.

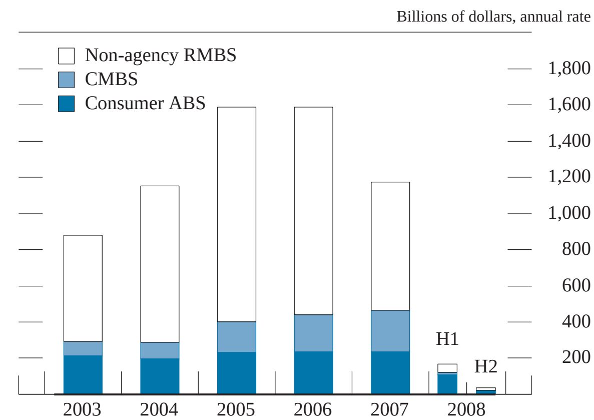
widened to record levels (figure 10). Bid-asked spreads on high-yield corporate bonds and leveraged loans increased significantly, and liquidity and price discovery in the CDS market remained impaired, especially for contracts involving financial firms. Spreads on commercial mortgage-backed securities (CMBS) and consumer asset-backed securities (ABS) also widened dramatically, as securitizations other than government-supported MBS came to a standstill (figure 11). The turmoil affected even the Treasury market, in which interest rate spreads between yields on the most recently issued

10. LCDX indexes, 2007–09




NOTE: The data are daily and extend through February 18, 2009. Each LCDX index consists of 100 single-name credit default swaps referencing entities with first-lien syndicated loans that trade in the secondary market for leveraged loans. Series 8 began trading on May 22, 2007, series 9 on October 3, 2007, and series 10 on April 8, 2008.
SOURCE: Markit.

11. Gross issuance of selected mortgage- and asset-backed securities, 2003–08




NOTE: Non-agency RMBS are residential mortgage-backed securities issued by institutions other than Fannie Mae, Freddie Mac, and Ginnie Mae; CMBS are commercial mortgage-backed securities; consumer ABS (asset-backed securities) are securities backed by credit card loans, nonrevolving consumer loans, and auto loans.
SOURCE: For RMBS and ABS, *Inside MBS & ABS* and Merrill Lynch; for CMBS, Commercial Mortgage Alert.

Treasury securities and yields on comparable-maturity off-the-run securities (that is, those securities that were previously issued)—an indicator of the liquidity in this market—surged from already elevated levels. Foreign financial markets experienced many of the same disturbances as domestic markets (see the section “International Developments”). Price movements in all of these markets were likely exacerbated by sales of securities by hedge funds and other leveraged market participants in an attempt to meet mounting redemption requests on the part of their investors and other funding needs.

In the stock market, prices tumbled and volatility soared to record levels during the autumn as investors grew more concerned about the prospects of financial firms and about the likelihood of a deep and prolonged recession (figures 12 and 13). Equity-price declines were particularly pronounced among financial and energy firms, but they were generally widespread across sectors and were accompanied by substantial net outflows from equity mutual funds. During this period, the premium that investors demanded for holding equity shares—gauged roughly by the gap between the earnings-price ratio and the yield on Treasury securities—shot up, reflecting the heightened risk aversion that prevailed in financial markets.

## Policy Actions and the Market Response

To strengthen confidence in the U.S. financial system, during the autumn the Federal Reserve, at times act-